

# PATENT SPECIFICATION

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(19)



## (54) STRIP LIGHT

(71) We, MICHAEL PATRICK O'CONNOR, 146, Salisbury Road, Welwyn Garden City, Hertfordshire, British, MALCOLM EDWARD OAKMAN, 70, Glebe Road, Sandy, Bedfordshire, British, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a motor vehicle stop light. In particular it relates to a motor vehicle stop light capable of producing high light intensity.

Many stop lights fitted to the rears of motor vehicles have the disadvantage that they do not provide a particularly distinct light particularly under foggy or other poor weather conditions and it is an object of the present invention to provide a light which will show up more clearly through fog and poor visibility and night conditions than the standard lighting at present in use on motor vehicles.

Accordingly we provide a motor vehicle stop light comprising an elongate translucent tube adjacent each end of which is positioned a light source, said tube comprising or being coated with a luminescent material.

Luminescent materials are well known and are easily available for example as paints.

By adjacent we mean just outside, but on the centre line of, the tube, and means e.g. suitably shaped mirrors are preferably employed so that the illumination from each light source is projected along the tube.

The tube may suitably be fabricated from a plastics material e.g., a thermoplastic such as polyethylene (low or high density), polypropylene, polyvinylchloride, polystyrene or polymethyl methacrylate and may include the normal additives, plasticisers, anti-oxidants etc., which are used in the production of articles from such thermoplastics. Polyvinylchloride because of its high resistance to shock and

polymethyl methacrylate because of its outstanding optical qualities are particularly preferred materials.

The luminescent material may be incorporated into the tube e.g., in the form of an additive before extrusion or other moulding operation when a thermoplastic material is used or it may be applied subsequently to the otherwise up till then transparent tube. This thin coating may be applied as a paint or alternatively a thin film containing the luminescent material may be affixed to the tube. For example such a film may be of heat-shrinkable material and may be applied to the tube by sliding a tubular film of slightly greater diameter over the tube and then applying heat so that it shrinks into close fitting contact. The thin coating may be applied internally or externally but it will be appreciated that external application is usually easier and is thus preferred. The amount of luminescent material incorporated in the tube or coating will of course be sufficient that the desired enhanced illumination is obtained whilst not so great that the translucence of the tube is markedly reduced. Any colour of the luminescent material may of course be used, but for our preferred application as a motor vehicle stop lamp, red is of course preferred.

As stated above, our stop light is suitable for use on motor vehicles and in addition to motor cars, may be used on lorries, buses, trailers, caravans, heavy locomotives and invalid cars. It will now be described in more detail with reference to the accompanying drawings wherein Figure 1 is a front elevation of a stop light and Figure 2 is an exploded view thereof also showing the constructional details of the light source assemblies.

In the Figures, a plastic (polyvinylchloride) tube 8, which is painted exteriorly with a fluorescent red paint, and two identical metal end caps, 2, which are a close fit over each end of the plastic tube, are shown. The end caps 2 are provided with fixing lugs 1, drilled with  $\frac{1}{4}$ " holes 3 and

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mounted within each end is a lamp holder 4 to hold a 12 volt lamp bulb 7. This lamp holder comprises a piece of generally concave silvered metal or plastic which, in operation serves to project the light from each bulb 7 along towards the centre of the plastic tube 8. A suitable  $\frac{1}{4}$ " hole 6 is drilled in each end cap to provide entry for the supply cable 5, which may suitably be an insulated single core flexible cable of polyvinylchloride.

It will be appreciated that, if desired, parts of the tube may be rendered opaque so that the angle at which light is emitted from the strip light in accordance with our invention can be controlled, and of course, the tube may be formed in such a way e.g., with integral or ancillary lens or focussing systems, to allow for this. Nevertheless a plain uniformly painted tube as described in the accompanying drawings is a preferred feature of the invention since this is very easy to maintain, cheap to replace and needs no careful alignment on fitting.

It will be appreciated that the embodiment described in the accompanying drawings allows for easy replacement of light bulbs should either or both of these fail. A further advantage is that, if one of the bulbs should fail, a considerable degree of illumination is achieved over the whole length of the tube with consequent increase in safety.

The fluorescent red paint used in the embodiment described in the

accompanying drawings was manufactured by Craig & Rose Limited of Edinburgh and is marketed as "Orange-red fluorescent paint".

#### WHAT WE CLAIM IS:—

1. A motor vehicle stop light comprising an elongate translucent tube adjacent each end of which is positioned a light source, said tube comprising or being coated with a luminescent material.

2. A strip light according to claim 1 wherein said translucent tube is fabricated from a plastics material.

3. A strip light according to claim 2 wherein said plastics material is polyvinyl chloride or polymethyl-methacrylate.

4. A strip light according to any one of the preceding claims wherein said luminescent material is in the form of a thin coating applied to an otherwise substantially transparent tube.

5. A strip light according to claim 4 wherein said coating is applied in the form of paint.

6. A strip light according to claim 1 as hereinbefore described with particular reference to and as illustrated in the accompanying drawing.

7. A road vehicle fitted with a stop light according to any one of the preceding claims.

R. A. A. HURST,  
Agent for the Applicants.

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COMPLETE SPECIFICATION

1 SHEET

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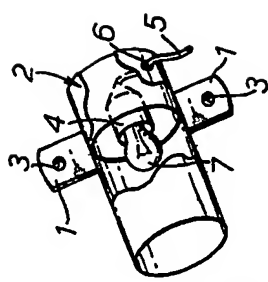


Fig. 1

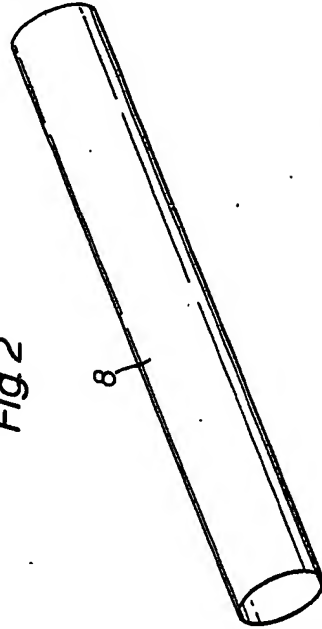
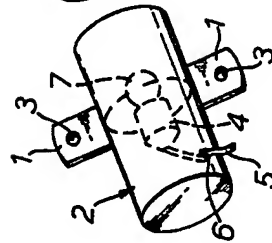
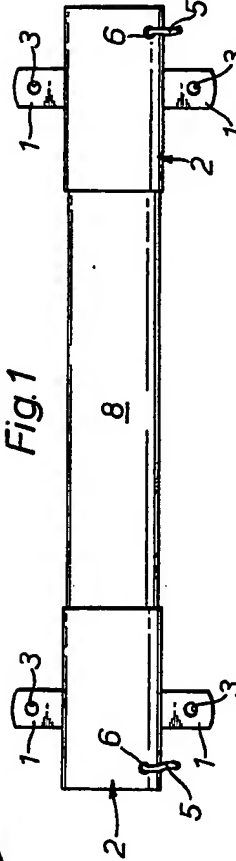


Fig. 2



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